This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A composition having enhanced thermal conductivity, comprising, in combination:

   a. a powder comprising particles selected from the group consisting of metals, metal alloys, metal blends, metal compounds, carbon, carbon derivatives and combinations thereof having an average particle size[[s]] in the nanometer to micron ~~size~~ range;

   b. a coating imparted to the powder particles; and

   c. a heat transfer medium selected from the group consisting of monomers, interpolymers, polymers, and phase change materials.

2. (Currently amended) The composition of claim 1, wherein the coating is ~~further comprises a coating~~ capable of ~~acting as~~ at least one of imparting corrosion resistance and acting as a dispersant.

3. (Currently amended) The composition of claim 2, wherein the coating acts as a dispersant of the powder in the heat transfer medium by at least one of increasing settling time of the powder, passivating the powder, reducing interfacial tension of the powder and increases adhesion to the powder.

4. (Currently amended) A process for transferring heat between a heat source and a heat sink, comprising the step of interposing between the heat source and the heat sink a heat transfer composition comprising a surface-coated powder comprising particles selected from the group consisting of metals, metal alloys, metal blends, metal compounds, carbon, carbon derivatives and combinations thereof having an average particle size of between about 1 nanometer to about 1 micron, wherein the surface coating ~~imparting~~ imparts improved thermal conductivity properties to the powder relative to uncoated powder.

5. (Previously presented) The process of claim 4, further comprising including the step of suspending the coated powder in a heat transfer medium.

6. (Currently amended) The process of claim 4, wherein the surface-coated powder is prepared by one of:

a. complexing a coating compound ~~with~~ on the surfaces of the powder particles;

b. adsorbing a coating compound on surfaces of the powder particles; and

c. imparting a metal coating onto surfaces of powder particles and subsequently complexing the metal coating with another coating.

7. (Previously presented) The process of claim 4, wherein the coating compound is in sufficient amount to form at least a molecular monolayer of the coating compound on surfaces of the powder particles.

8. (Currently amended) The composition of claim 1 wherein the powder ~~further comprises~~ particles have an average particle size of less than 10 microns.

9. (Currently amended) The composition of claim 8 wherein the powder ~~further comprises~~ particles have an average particle size within the range of 10 nm to 2 μ.

10. (Currently amended) ~~The composition of claim 1 wherein the powder is selected~~ A composition having enhanced thermal conductivity, comprising, in combination:

a. a powder comprising particles selected from the group of metal, metal alloy, organic metal compounds, inorganic metal compounds, carbon and combinations thereof having an average particle size between 1 nanometer and 100 microns;

b. a coating imparted to the powder particles; and

c. a heat transfer medium selected from the group consisting of monomers, interpolymers, polymers, and phase change materials.

11. (Previously presented) The composition of claim 10 wherein the powder is selected from the group of metals consisting of copper, titanium, nickel, beryllium, iron, silver, gold, alloys thereof, blends thereof, and compounds thereof.

12. (Previously presented) The composition of claim **10** wherein the powder is selected from the group of carbons consisting of graphite, carbon nanotubes, diamond, fullerene carbons of the general formula $(C_2)_n$, where n is an integer of at least 30, and blends thereof.

13. (Previously presented) The composition as claimed in claim **1** wherein the heat transfer medium is selected from the group consisting of solids, fluids, and phase change materials.

14. (Previously presented) The composition as claimed in claim **1** wherein the heat transfer medium is an interpolymer.

15. (Previously presented) The composition of claim **14** wherein the interpolymer is prepared by polymerizing alpha-olefin monomer with vinylidene aromatic monomer and aliphatic vinylidene monomers with a volume ratio between 10:1 to 1:100 and a weight percent of 99 to 1 percent.

16. (Previously presented) The composition of claim **15** wherein the interpolymer is further prepared with polymerizable ethylenically unsaturated monomer.

17. (Previously presented) The composition of claim **13** wherein the heat transfer medium is selected from the group consisting of conjugated polymers, crystalline polymers, amorphous polymers, epoxies, resins, acrylics, polycarbonates, polyphenylene ethers, polyimides, polyesters, acrylonitrile-butadiene-styrene (ABS); polyethylene, polypropylene, polyamides, polyesters, polycarbonates, polyphenylene oxide, polyphenylene sulphide, polyetherimide, polyetheretherketone, polyether ketone, polyimides, polyarylates, styrene, poly(tetramethylene oxide), poly(ethylene oxide), poly(butadiene), poly(isoprene), poly(hydrogenated butadiene), poly(hydrogenated isoprene), liquid crystal polymers, polycarbonate, polyamide-imide, copolyimides precursors, reinforced polyimide composites and laminates made from said polyimides, polyphenylated polynuclear aromatic diamines, fluorocarbon polymers, polyetherester elastomers, neoprene, polyurea, polyanhydride ,chlorosulphonated polyethylene, ethylene/propylene/diene (EPDM) elastomers, polyvinyl chloride, polyethylene terephthalate, polyvinylchloride, ABS,

polystyrene, polymethylmethacrylate, polyurethane, polyacrylate, polymethacrylate, and polysiloxane, aromatic copolyimide, polyalpholefins, polythiophene, polyaniline, polypyrrole, polyacetylene, polyisocyanurates, and derivatives thereof, vinyl monomers, styrene, vinyl pyridines, N-vinyl pyrrolidone, vinyl acetate, acrylonitrile, methyl vinyl ketone, methyl methacrylate, methyl acrylate, 2-hydroxyethyl methacrylate, 2-hydroxyethyl acrylate; polyols, ethylene glycol, 1,6-hexane diol, 1,4-cyclohexanedicarbinol, polyamines, 1,6-hexadiamine, 4,4'-methylenebis (N-methylaniline), polycarboxylic acids, adipic acid, phthalic acid, epoxides, ethylene oxide, propylene oxide, and cyclohexene oxide, polyalkylene glycols, polyethylene glycol, polypropylene glycol, vinyl polymers, polystyrene, polyvinyl acetate, polyvinylpyrrolidone, polyvinylpyridine, polymethyl methacrylate, organic liquid-soluble polysaccharides, functionalized polysaccharides, cellulose acetate, and crosslinked swellable polysaccharides.

18. (Previously presented) The composition of claim **16** wherein the heat transfer medium further comprises a phase change medium selected from the group consisting of salt-hydrates, organic eutectics, clathrate-hydrates, paraffins, hydrocarbons, Fischer-Tropsch hard waxes, inorganic eutectic mixtures, acetamide, methyl fumarate, myristic acid, Glauber's salt, paraffin wax, fatty acids, methyl-esters, methyl palmitate, methyl stearate, mixtures of short-chain acids, capric and lauric acid, coconut fatty acids, propane and methane.

19. (Previously presented) The composition of claim **10** wherein the coating is selected from the group consisting of azoles, benzotriazole, tolytriazole, halogen resistant azoles, and substituted derivatives thereof.

20. (Currently amended) The composition of claim **19** wherein the azole is selected from the group consisting ~~comprising~~ of aromatic azoles, diazoles, triazoles, tetrazoles, benzotriazole, tolyltriazole, 2,5-(aminopentyl) benzimidazole, alkoxybenzotriazole, imidazoles, ~~such as~~ oleyl imidazoline, thiazoles, ~~such as~~ mercaptobenzothiazole, 1-phenyl-5-mercaptotetrazole, thiodiazoles, halogen-resistant azoles, 5,6-dimethyl-benzotriazole; 5,6-diphenylbenzotriazole;

5-benzoyl-benzotriazole; 5-benzyl-benzotriazole and 5-phenyl-benzotriazole, a combination of alkoxybenzotriazole, mercaptobenzothiazole, tolyltriazole, benzotriazole, a substituted benzotriazole, and/or 1-phenyl-5-mercaptotetrazole, a mixture of a pentane-soluble imidazoline, a pentane-soluble amide, a pyridine-based compound, a pentane-soluble dispersant, and a solvent, and combinations thereof.

21. (Previously presented) The composition of claim **10** wherein the coating further comprises an inorganic corrosion inhibitor compound.

22. (Currently amended) The composition of claim **10** wherein the powder is a carbon powder and the coating further comprises a lignin-based compound, ethylene oxide/propylene oxide (EO/PO) block copolymers, anionic surfactants, ionic surfactants and nonionic surfactants.

23. (Currently amended) The composition of claim **10** wherein the powder selected from the group consisting of aluminum ~~aluminium~~ and aluminum alloys and the coating further comprises a cerium compound.

24. (Currently amended) The composition of claim **10** wherein the powder is selected from the group consisting of copper, silver, iron, steel and alloys thereof and the coating is selected from the group consisting of mercapto-substituted thiodiazoles, amino-substituted thiodiazoles, and mercapto-substituted triazole, amino-substituted triazoles, oleyl imidazoline, triethanolamine and monoethanolamine.

25. (Previously presented) The composition of claim **22** wherein the lignin-based compound further comprises at least one of a monovalent salt of lignin, free acid lignin, polyvalent metal salts of lignin. lignin sulfonic acid, alkali metal salts of lignin sulfonic acid, alkaline earth metal salts of lignin sulfonic acid, and ammonium salts of lignin sulfonic acid.

26. (Currently amended) The composition of claim **10** wherein the powder is a carbon powder and the coating is selected from the group consisting of alkali metal salts, alkali earth metal salts, ammonium salts, and alkyl ether phosphates.